

Abstract

A programmable voltage standard element which consists of Josephson junction arrays having Josephson junction devices which are connected in series generates constant voltage by impression of bias current and microwave.

The voltage standard element has bias current terminals each of which is provided for a respective section comprising a Josephson junction devices of in-series connection that are divided by the number of the n th power of 3. A bias current supply circuit independently impresses bias current of a predetermined value to a bias current terminal for every section. A controlling circuit controls a bias current supply circuit to impress bias current of a predetermined value to a Josephson junction array of each section and control impression of microwave.